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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/815,604

03/31/2004

Andrew Ho

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EXAMINER

PERILLA, JASON M

ART UNIT

PAPER NUMBER

2611

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/815,604	<b>Applicant(s)</b> HO ET AL.	
	<b>Examiner</b> JASON M. PERILLA	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-14, 16-25, 27-32, 34-36, 38-43 and 45-50 is/are pending in the application.
- 4a) Of the above claim(s) 12-14, 16-25, 27-32, 34-36, 38-43 and 45-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8 and 10 is/are rejected.
- 7) ☒ Claim(s) 4-7 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-8, 10-14, 16-25, 27-32, 34-36, 38-43 and 45-50 are pending in the instant application.

### ***Election/Restrictions***

2. Restriction to one of the following inventions is required under 35 U.S.C. § 121:

- I. Independent claim 1 and its dependencies, drawn to a digital reception circuit comprising a comparison circuit and multiplexer, classified in class 375, subclass 316.
- II. Independent claims 12, 23, 31, 32, and 49 and their dependencies, drawn to a receiver asserting an error signal if signal mismatches occur during an expected data pattern, classified in class 375, subclass 316.
- III. Independent claims 34, 38, 40 and 45 and their dependencies, drawn to a receiver comprising a comparison circuit and a data filter, classified in class 375, subclass 316.
- IV. Independent claim 47 and its dependencies, drawn to a receiver comprising an equalization circuit, classified in class 375, subclass 229.

The inventions are distinct, each from the other because of the following reasons:

3. Inventions I, II, III, and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions, as claimed, have different designs and modes of operation which are not obvious variants of each other.

4. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- (a) the inventions have acquired a separate status in the art in view of their different classification;
- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;
- (e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

**Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.**

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election

shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

5. During a telephone conversation with Arthur Beheil on November 14, 2008 a provisional election was made without traverse to prosecute invention I, claims 1-8, 10 and 11. Affirmation of this election must be made by applicant in replying to this Office action. Claims 12-14, 16-25, 27-32, 34-36, 38-43 and 45-50 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

#### ***Response to Amendment/Argument***

6. The Applicant's claim amendments and remarks filed August 14, 2008 have been considered by the Examiner.

In view of the Applicant's remarks, the rejections under 35 U.S.C. § 112 have been withdrawn.

A new grounds of rejection are set forth below.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 3, 8, and 10 are rejected under 35 U.S.C. § 102(b) as being anticipated by Gitlin et al (U.S. Pat. No. 5191462; "Gitlin").

Regarding claim 1, Gitlin discloses a receive circuit (figs. 6 and 7) comprising: a data input terminal (fig. 6, ref. 27) to receive a stream of input data; a first sampler (fig. 6; taking, as input, the output of the comparator taking "V1" as input) having a first sampler data terminal coupled to the data input terminal, a first clock terminal, and a first data output terminal; a second sampler (fig. 6; taking, as input, the output of the comparator taking "V2" as input) having a second sampler data terminal coupled to the data input terminal, a second clock terminal, and a second data output terminal; a comparison circuit (fig. 6, XOR and AND gates in upper right hand corner) having a first comparison-circuit input node coupled to the first data output terminal, a second comparison-circuit input node coupled to the second data output terminal, and a comparison-circuit output node; and a multiplexer (fig. 7, ref. 741) having a first multiplexer input terminal (fig. 7; Wj input to ref. 741) coupled to the first data output

terminal, a second multiplexer input terminal (fig. 7; Xj input to ref. 741) connected to the second data output terminal, a select terminal (fig. 7; "SELECT"), and a multiplexer output terminal (see, generally, ref. 741 of fig. 7). The second input terminal of the Gitlin's multiplexer (fig. 7, ref. 741; Xj input) is "connected" to the second data output terminal via a coupling among intermediate components as illustrated generally in figures 6 and 7. In the specification, the term "connected" is accorded a broad meaning and may refer to a connection via "intermediate components" (see paragraph 83 of the specification).

Regarding claim 3, Gitlin discloses the limitations of claim 1 as applied above. Further, Gitlin discloses that the first and second samplers sample the stream of input data to produce respective first and second sampled-data streams (inherent), and wherein the comparison circuit is adapted to compare at least one of the sampled-data streams (the output of the first sampler) with expected data (i.e. the output of the second sampler).

Regarding claim 8, Gitlin discloses the limitations of claim 1 as applied above. Further, Gitlin discloses a third sampler (fig. 6; taking, as input, the output of the comparator taking "V3" as input) having a third sampler data terminal coupled to the data input terminal, a third clock terminal, and a third data output terminal.

Regarding claim 10, Gitlin discloses the limitations of claim 1 as applied above. Further, Gitlin discloses that the first multiplexer input terminal is coupled to the first data output terminal via the comparison circuit (see, generally, figs. 6 and 7).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Gitlin in view of Best et al (U.S. Pub. No. 2002/0196883 – previously cited).

Regarding claim 2, Gitlin discloses the limitations of claim 1 as applied above. Gitlin does not explicitly disclose that the data input terminal, the first sampler, the second sampler, and the comparison circuit are disposed on a semiconductor chip. However, placing several circuit components on a single semiconductor substrate is notoriously known in the art as evidenced by Best (¶ 0047). Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made that the various circuit components of Gitlin could be disposed on a single semiconductor chip or integrated circuit as disclosed by Best.

#### ***Allowable Subject Matter***

11. Claims 4-7 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON M. PERILLA whose telephone number is (571)272-3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason M Perilla/  
Primary Examiner, Art Unit 2611  
November 14, 2008

/jmp/